A. Compliance Forms

Envelope Forms

CERTIFICATE OF COMPLIANCE (Part 1 of 2) ENV-1

PROJECT NAME		DATE
PROJECT ADDRESS		
PRINCIPAL DESIGNER-ENVELOPE	TELEPHONE	Building Permit #
DOCUMENTATION AUTHOR	TELEPHONE	Checked by/Date Enforcement

GENERAL INFORMATION

DATE OF PLANS	BUILDING CONDITIONED FLOOR AREA		CLIMATE ZONE
BUILDING TYPE	☐ NONRESIDENTIAL	☐ HIGH RISE RESIDENTIAL	☐ HOTEL/MOTEL GUEST ROOM
PHASE OF CONSTRUCTION	☐ NEW CONSTRUCTION	☐ ADDITION ☐ ALTERATION	☐ UNCONDITIONED (file affidavit)
METHOD OF ENVELOPE COMPLIANCE	☐ COMPONENT	☐ OVERALL ENVELOPE	☐ PERFORMANCE

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building envelope requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR	SIGNATURE	DATE

The Principal Envelope Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the envelope requirements contained in sections 110, 116 through 118, and 140, 142, 143 or 149 of Title 24, Part 6.

Please check one:

- ❑ I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer or mechanical engineer, or I am a licensed architect.
- ❑ I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
- ❑ I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

PRINCIPAL ENVELOPE	SIGNATURE	DATE	LIC. #

ENVELOPE MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures _____

INSTRUCTIONS TO APPLICANT

For Detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.

ENV-1: Required on plans for all submittals. Part 2 may be incorporated in schedules on plans.

ENV-2: Used for all submittals; choose appropriate form depending on method of envelope compliance.

ENV-3: Optional. Use if default U-factors are not used. Choose appropriate form for assembly U-factor to be calculated.

CERTIFICATE OF COMPLIANCE (Part 2 of 2) ENV-1

PROJECT NAME	DATE

OPAQUE SURFACES

Surface Type	Type (e.g., Block, Wood, Metal)	Area	U-factor	Azimuth	Tilt	Solar Gains Y/N	Form 3 Reference	(e.g., Suspended Ceiling, Demising, etc.)	For Building Dept. Use Only
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			

FENESTRATION SURFACES

Site Assembled Glazing

☐ Check box if Building is ≥ 100,000 ft^2 of CFA and ≥ 10,000 ft^2 of vertical glazing then NFRC Certification is required. Follow NFRC 100-SB Procedures and submit NFRC Label Certificate Form. See Section 10-111

Fenestration Type	Area	U-factor	Azimuth	SHGC	Glazing Type	Location / Comments	NOTES TO FIELD – For Bldg. Dept. Use Only

EXTERIOR SHADING

Fenestration #	Exterior Shade Type	SHGC	Window		Overhang				Left Fin			Right Fin		
			Height	Width	Length	Height	Lext.	Rext.	Dist.	Length	Height	Dist.	Length	Height
		Performance Use Only							Performance Use Only	Performance Use Only	Performance Use Only	Performance Use Only	Performance Use Only	Performance Use Only

NOTES TO FIELD – For Building Department Use Only

ENVELOPE COMPONENT METHOD ENV-2

PROJECT NAME	DATE

WINDOW AREA CALCULATION and SKYLIGHT AREA CALCULATION

GROSS WALL AREA (GWA)		DISPLAY PERIMETER (DP)	
GWA x 0.40		DP x 6	

GREATER OF

If the PROPOSED WINDOW AREA is greater than the MAXIMUM ALLOWABLE WINDOW AREA, go to another method.

MAX. ALLOWABLE

PROPOSED WINDOW AREA

Window Wall Ratio = Proposed Window Area Divided by Gross Exterior Wall Area

ATRIUM HEIGHT FT

IF ≤ 55 FT IF > 55 FT

0.10	X		=			
0.05	X		=			
		GROSS ROOF AREA		ALLOWED AREA		

If the ACTUAL SKYLIGHT AREA is greater than the ALLOWED SKYLIGHT AREA, go to another method. ACTUAL SKYLIGHT AREA

OPAQUE SURFACES

ASSEMBLY NAME (eg. Wall-1, Floor-1)	TYPE (eg. Roof, Wall, Floor)	HEAT CAPACITY	INSULATION R-VALUE*		ASSEMBLY U-FACTOR*			
			PROPOSED	MINIMUM ALLOWED	PROPOSED	TABLE VALUES? Y	TABLE VALUES? N	MAXIMUM ALLOWED
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

* For each assembly type, meet the minimum insulation R-value or the maximum assembly U-factor.

WINDOWS

WINDOW NAME (e.g., Window-1, Window-2)	ORIENTATION N	E	S	W	U-FACTOR PROP.	ALLOW.	# OF PANES	PROPOSED RSHG SHGC	H	V	H/V	OHF	PROP. RSHG	ALLOWED RSHG
	☐	☐	☐	☐										
	☐	☐	☐	☐										
	☐	☐	☐	☐										
	☐	☐	☐	☐										

SKYLIGHTS

SKYLIGHT NAME (e.g., Sky-1, Sky-2)	GLAZING With Curb	With No Curb	Plastic	# OF PANES	U-FACTOR PROPOSED	U-FACTOR ALLOWED	SOLAR HEAT GAIN COEFFICIENT PROPOSED	SOLAR HEAT GAIN COEFFICIENT ALLOWED
	☐	☐	☐					
	☐	☐	☐					
	☐	☐	☐					
	☐	☐	☐					

OVERALL ENVELOPE METHOD (Part 1 of 6) ENV-2

PROJECT NAME	DATE

WINDOW AREA TEST

A. DISPLAY PERIMETER		FT × 6 =		SF DISPLAY AREA
B. GROSS EXTERIOR WALL AREA		SF × 0.40 =		SF 40% AREA
C. GROSS EXTERIOR WALL AREA		SF × 0.10 =		SF MINIMUM STANDARD AREA
D. ENTER LARGER OF A OR B				SF MAXIMUM STANDARD AREA
E. ENTER PROPOSED WINDOW AREA				SF PROPOSED AREA

F. WINDOW WALL RATIO = Proposed Window Area Divided by Gross Exterior Wall Area = ____

IF E IS GREATER THAN D OR LESS THAN C, PROCEED TO THE NEXT CALCULATION FOR WINDOW AREA ADJUSTMENT. IF NOT, GO TO PART 2 OF 6.

1. IF E IS GREATER THAN D:

MAXIMUM STANDARD AREA		PROPOSED WINDOW AREA		WINDOW ADJUSTMENT FACTOR
	÷		=	

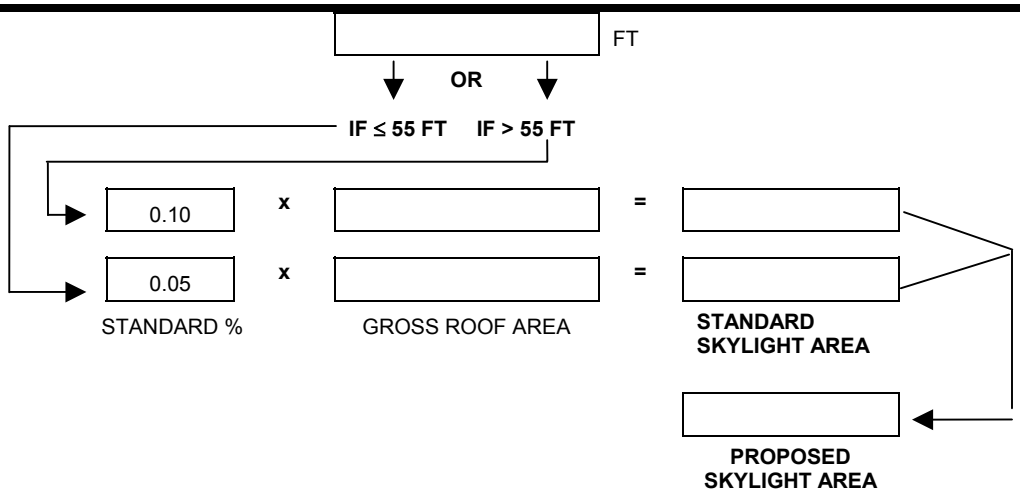
GO TO PART 6 TO CALCULATE ADJUSTED AREA

2. IF LESS THAN C:

MINIMUM STANDARD AREA		PROPOSED WINDOW AREA (IF E = 0 ENTER 1)		WINDOW ADJUSTMENT FACTOR
	÷		=	

GO TO PART 6 TO CALCULATE ADJUSTED AREA

SKYLIGHT AREA TEST



IF THE PROPOSED SKYLIGHT AREA IS GREATER THAN THE STANDARD SKYLIGHT AREA, PROCEED TO THE NEXT CALCULATION FOR THE SKYLIGHT AREA ADJUSTMENT. IF NOT, GO TO PART 2 OF 6.

1. IF PROPOSED SKYLIGHT AREA ≥ STANDARD SKYLIGHT AREA:

STANDARD SKYLIGHT AREA		PROPOSED SKYLIGHT AREA (IF E = 0 ENTER 1)		SKYLIGHT ADJUSTMENT FACTOR
	÷		=	

GO TO PART 6 TO CALCULATE ADJUSTED AREAS

OVERALL ENVELOPE METHOD (Part 2 of 6) ENV-2

PROJECT NAME | DATE

OVERALL HEAT LOSS

	A			B	C	D		E	F	G	H
				PROPOSED					STANDARD		
	ASSEMBLY NAME (e.g. Wall-1, Floor-1)			AREA	HEAT CAPACITY	U-FACTOR	TABLE VALUES? Y	N	UA (B × D)	AREA* (Adjusted)	U-FACTOR	UA (F × G)
WALLS							☐	☐				
							☐	☐				
							☐	☐				
							☐	☐				
							☐	☐				
							☐	☐				
ROOFS/CEILINGS							☐	☐				
							☐	☐				
							☐	☐				
							☐	☐				
							☐	☐				
							☐	☐				
FLOORS/SOFFITS							☐	☐				
							☐	☐				
							☐	☐				
							☐	☐				
							☐	☐				
							☐	☐				
WINDOWS		# OF PANES			N/A		☐	☐				
		# OF PANES			N/A		☐	☐				
		# OF PANES			N/A		☐	☐				
		# OF PANES			N/A		☐	☐				
		# OF PANES			N/A		☐	☐				
		# OF PANES			N/A		☐	☐				
SKYLIGHTS		# OF PANES			N/A		☐	☐				
		# OF PANES			N/A		☐	☐				
		# OF PANES			N/A		☐	☐				
		# OF PANES			N/A		☐	☐				
		# OF PANES			N/A		☐	☐				
		# OF PANES			N/A		☐	☐				

* If Window and/or Skylight Area Adjustment is required, use adjusted areas from part 6 of 6.

TOTAL ◄ Column **E** shall be no greater than Column **H** ► TOTAL

OVERALL ENVELOPE METHOD (Part 3 of 6) ENV-2

PROJECT NAME | DATE

OVERALL HEAT GAIN FROM CONDUCTION

	A	B	C	D	E		F	G	H	I	J
		PROPOSED						STANDARD			
	ASSEMBLY NAME (e.g. Wall-1, Floor-1)	AREA	TEMP. FACTOR	HEAT CAPACITY	U-FACTOR	TABLE VALUES? Y	TABLE VALUES? N	HEAT GAIN (B ×C ×E)	AREA* (Adjusted)	U-FACTOR	TEMP. FACTOR	HEAT GAIN (G ×H ×I)
WALLS						☐	☐					
						☐	☐					
						☐	☐					
						☐	☐					
						☐	☐					
						☐	☐					
ROOFS/CEILINGS						☐	☐					
						☐	☐					
						☐	☐					
						☐	☐					
						☐	☐					
						☐	☐					
FLOORS/SOFFITS						☐	☐					
						☐	☐					
						☐	☐					
						☐	☐					
						☐	☐					
						☐	☐					
WINDOWS	# OF PANES			N/A		☐	☐					
	# OF PANES			N/A		☐	☐					
	# OF PANES			N/A		☐	☐					
	# OF PANES			N/A		☐	☐					
	# OF PANES			N/A		☐	☐					
	# OF PANES			N/A		☐	☐					
SKYLIGHTS	# OF PANES			N/A		☐	☐					
	# OF PANES			N/A		☐	☐					
	# OF PANES			N/A		☐	☐					
	# OF PANES			N/A		☐	☐					
	# OF PANES			N/A		☐	☐					
	# OF PANES			N/A		☐	☐					
								Subtotal				Subtotal

OVERALL ENVELOPE METHOD (Part 4of 6) ENV-2

PROJECT NAME	DATE

OVERALL HEAT GAIN FROM RADIATION OPAQUE SURFACES (i.e. Roofs)

	A	B	C	D	E	F	G	H	I	J	K
		PROPOSED						STANDARD			
	ASSEMBLY NAME (e.g. Roof-1)	AREA	SOLAR FACTOR	WEIGHT FACTOR	U-FACTOR	Absorp α	HEAT GAIN (B×CxD×ExF)	AREA* (Adjusted)	U-FACTOR	Absorp α	HEAT GAIN (C×DxH×IxJ)

	G Subtotal	K Subtotal

OVERALL ENVELOPE METHOD (Part 5 of 6) ENV-2

PROJECT NAME | DATE

OVERALL HEAT GAIN FROM RADIATION

FENESTRATION SURFACES

	A	B	PROPOSED C	D	E	F	G	H	I	STANDARD J	K	L	M
	WINDOW/SKYLIGHT NAME (e.g Window-1, Sky-1)	WEIGHTING FACTOR	AREA	SOLAR FACTOR	SHGC	OVERHANG H	OVERHANG V	OVERHANG H/V	OVERHANG OHF	HEAT GAIN (BxCx DxExH)	AREA (Adjusted)*	RSHG or SHGC**	SOLAR FACTOR	HEAT GAIN (B×J×K×L)
NORTH														
EAST														
SOUTH														
WEST														
SKYLIGHTS						N/A	N/A	N/A	N/A					
						N/A	N/A	N/A	N/A					
						N/A	N/A	N/A	N/A					
						N/A	N/A	N/A	N/A					
						N/A	N/A	N/A	N/A					
									Part 3 Subtotal					Part 3 Subtotal
									Part 4 Subtotal					Part 4 Subtotal
									Part 5 Subtotal					Part 5 Subtotal
									TOTAL					TOTAL

* If Window and/or Skylight Area Adjustment is required, use adjusted areas from part 6 of 6.

** Only SHGC is used for Skylights

Column **I** must be less than column **M**

OVERALL ENVELOPE METHOD (Part 6 of 6) ENV-2

PROJECT NAME	DATE

WINDOW AREA ADJUSTMENT CALCULATIONS

☐ CHECK IF NOT APPLICABLE (see Part 1 of 6)

A					B	C	D	E	F	G
WALL NAME (e.g. Wall-1, Wall-2)	ORIENTATION				GROSS AREA	DOOR AREA	WINDOW AREA	WINDOW ADJUSTMENT FACTOR (From Part 1)	ADJUSTED WINDOW AREA (D×E)	ADJUSTED WALL AREA B-(F+C)
	N	E	S	W						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
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	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
TOTALS:										

SKYLIGHT AREA ADJUSTMENT CALCULATIONS

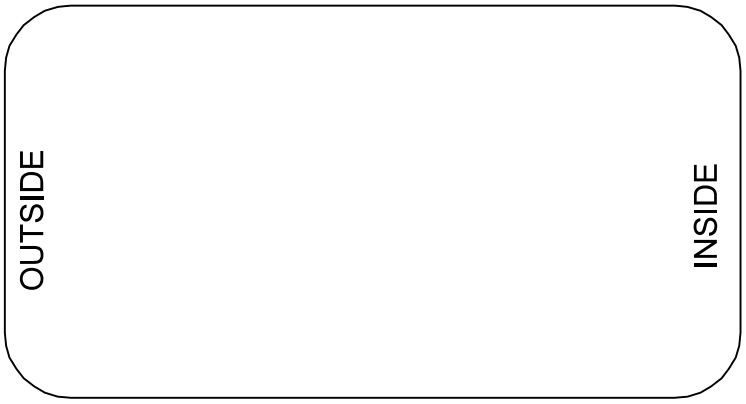
❑ CHECK IF NOT APPLICABLE (see Part 1 of 6)

A	B	C	D	E	F
ROOF NAME (e.g. Roof-1, Roof-2)	GROSS AREA	SKYLIGHT AREA	SKYLIGHT ADJUSTMENT FACTOR (From Part 1)	ADJUSTED SKYLIGHT AREA (C×D)	ADJUSTED ROOF AREA (B – E)
TOTALS:					

PROPOSED WOOD FRAME ASSEMBLY ENV-3

PROJECT NAME	DATE

COMPONENT DESCRIPTION



SKETCH OF ASSEMBLY

ASSEMBLY NAME

ASSEMBLY TYPE (Check one)
- Floor
- Wall
- Ceiling/Roof

FRAMING MATERIAL

FRAMING SIZE Fr %: _____

FRAMING PERCENTAGE
15% (16" o. c. Wall
12% (24" o. c. Wall)
10% (16" o. c. Floor/Ceil.)
7% (24" o. c. Floor/Ceil.)

CONSTRUCTION COMPONENTS

	DESCRIPTION	R-FACTOR CAVITY R-FACTOR (Rc)	R-FACTOR WOOD FRAME R-FACTOR	A WALL WEIGHT lbs/sf	B SPECIFIC HEAT (Btu/F°•lbs)	HC (A×B) (Btu/F°•sf)
1						
2						
3						
4						
5						
6						
7						
	INSIDE SURFACE AIR FILM					
	SUBTOTAL				TOTAL HC	
		Rc	Rf			

[ ] x [ ]] + [[ ] x [ ]] = [ ]

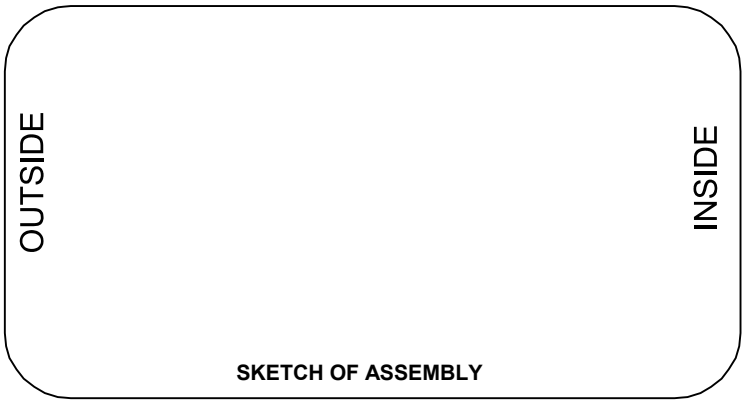
1/Rc | 1 – (Fr%/100) | 1/Rf | Fr%/100 | ASSEMBLY U-FACTOR

COMMENTS

PROPOSED METAL FRAME ASSEMBLY ENV-3

PROJECT NAME	DATE

COMPONENT DESCRIPTION



SKETCH OF ASSEMBLY

ASSEMBLY NAME		
ASSEMBLY TYPE		**Floor**
		Wall
		Ceiling/Roof
FRAMING MATERIAL		
FRAMING SIZE		
FRAMING SPACING	16" o. c. ☐	24" o. c. ☐
INSULATION R-VALUE		

CONSTRUCTION COMPONENTS

	DESCRIPTION	CAVITY R-VALUE (Rc)
	OUTSIDE SURFACE AIR FILM	
1		
2		
3		
4		
5		
6		
7		
	INSIDE SURFACE AIR FILM	

METAL FRAMING FACTOR			
Stud Spacing	**Stud Depth**	**Insulation R-Value**	**Non-Mass Wall**
16" o. c.	**4"**	**R-7**	**0.522**
		R-11	**0.403**
		R-13	**0.362**
		R-15	**0.328**
	6"	**R-19**	**0.325**
		R-21	**0.300**
		R-22	**0.287**
		R-25	**0.263**
24" o. c.	**4"**	**R-7**	**0.577**
		R-11	**0.458**
		R-13	**0.415**
		R-15	**0.379**
	6"	**R-19**	**0.375**
		R-21	**0.348**
		R-22	**0.335**
		R-25	**0.308**

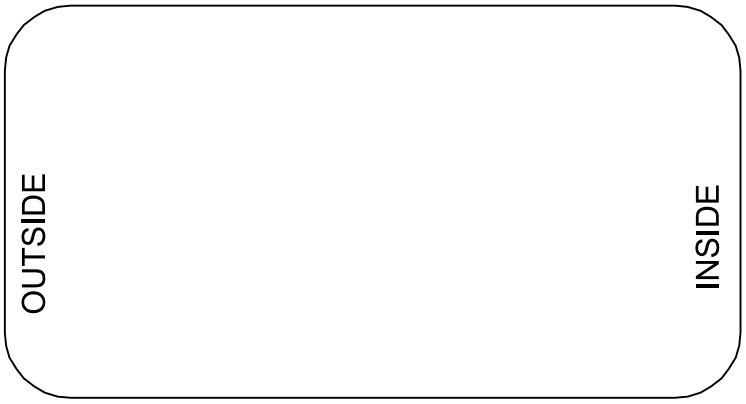
		Rt
		MFF
		R-VALUE
		R-VALUE
		Rt
1/Rt		ASSEMBLY U-FACTOR

COMMENTS

PROPOSED MASONRY WALL ASSEMBLY ENV-3

PROJECT NAME	DATE

COMPONENT DESCRIPTION



SKETCH OF ASSEMBLY

ASSEMBLY NAME

DESCRIPTION OF ASSEMBLY

WALL R-VALUE and HEAT CAPACITY

WALL UNIT THICKNESS		NOMINAL INCHES
MATERIAL TYPE		(LW CMU, MW CMU, NW CMU, CLAY UNIT, CLAY BRICK, CONCRETE.)
CORE TREATMENT		(SOLID, GROUTED, EMPTY, INSULATED, NA)
WALL R-VALUE		Rw (FROM TABLE B-4 or B-5)
WALL HEAT CAPACITY		HC (FROM TABLE B-4 or B-5)

FURRING/INSULATION LAYER (INSIDE and/or OUTSIDE IF ANY)

FURRING FRAMING MATERIAL		(WOOD, METAL, NONE)		
FURRING FRAMING SIZE		NOMINAL INCHES		ACTUAL INCHES
FURRING SPACE INSULATION		TYPE		R-VALUE
EXTERIOR INSULATING AREA		TYPE		R-VALUE

FURRING ASSEMBLY EFFECTIVE R-VALUE		**EXTERIOR INSULATING LAYER R-VALUE**		**INSULATION LAYER R-VALUE**
	+		=	Rf
(FROM TABLE B-7)		(FROM MANUFACTURER)		

WALL ASSEMBLY R-VALUE and U-FACTOR

INSULATION LAYER R-VALUE		**WALL R-VALUE**		**WALL ASSEMBLY R-VALUE**		**WALL ASSEMBLY U-FACTOR**
	+		=		→	
Rf		**Rw**		**Rt**		**1/Rt**

COMMENTS

Mechanical Forms

CERTIFICATE OF COMPLIANCE (Part 1 of 2) MECH-1

PROJECT NAME		DATE
PROJECT ADDRESS		
PRINCIPAL DESIGNER-MECHANICAL	TELEPHONE	Building Permit
DOCUMENTATION AUTHOR	TELEPHONE	Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS	BUILDING CONDITIONED FLOOR AREA	CLIMATE ZONE

BUILDING TYPE	☐ NONRESIDENTIAL	☐ HIGH RISE RESIDENTIAL		☐ HOTEL/MOTEL GUEST ROOM
PHASE OF CONSTRUCTION	☐ NEW CONSTRUCTION	☐ ADDITION	☐ ALTERATION	☐ UNCONDITIONED (file affidavit)
METHOD OF MECHANICAL COMPLIANCE	☐ PRESCRIPTIVE		☐ PERFORMANCE	
PROOF OF ENVELOPE COMPLIANCE	☐ PREVIOUS ENVELOPE PERMIT		☐ ENVELOPE COMPLIANCE ATTACHED	

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building mechanical requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR	SIGNATURE	DATE

The Principal Mechanical Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the mechanical requirements contained in the applicable parts of Sections 110 through 115, 120 through 124, 140 through 142, 144 and 145.

Please check one:

- ☐ I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for it's preparation; and that I am licensed in the State of California as a civil engineer or mechanical engineer, or I am a licensed architect.
- ☐ I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
- ☐ I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described pursuant to Business and Professions Code sections 5537, 5538, and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

PRINCIPAL MECHANICAL DESIGNER-NAME	SIGNATURE	DATE	LIC. #

MECHANICAL MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures _____

INSTRUCTIONS TO APPLICANT

For Detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.
MECH-1: Required on plans for all submittals. Part 2 may be incorporated in schedules on plans.
MECH-2: Required for all submittals, but may be incorporated in schedules on plans.
MECH-3: Required for all submittals unless required ventilation rates and airflows are shown on plans, see 4.3.4.
MECH-4: Required for all prescriptive submittals.
MECH-5: Optional. Performance use only for mechanical distribution summary.

CERTIFICATE OF COMPLIANCE (Part 2 of 2) MECH-1

PROJECT NAME	DATE

SYSTEM FEATURES

	MECHANICAL SYSTEMS			
SYSTEM NAME				**NOTE TO FIELD Bldg. Dept. Use**
TIME CONTROL				
SETBACK CONTROL				
ISOLATION ZONES				
HEAT PUMP THERMOSTAT?				
ELECTRIC HEAT?				
FAN CONTROL				
VAV MINIMUM POSITION CONTROL?				
SIMULTANEOUS HEAT/COOL?				
HEAT AND COOL SUPPLY RESET?				
HEAT REJECTION CONTROL				
VENTILATION				
OUTDOOR DAMPER CONTROL?				
ECONOMIZER TYPE				
DESIGN O.A. CFM (MECH-3, COLUMN H)				
HEATING EQUIPMENT TYPE				
HIGH EFFICIENCY? IF YES ENTER EFF. #				
MAKE AND MODEL NUMBER				
COOLING EQUIPMENT TYPE				
HIGH EFFICIENCY? IF YES ENTER EFF. #				
MAKE AND MODEL NUMBER				
PIPE INSULATION REQUIRED?				
PIPE/DUCT INSULATION PROTECTED?				
HEATING DUCT LOCATION R-VALUE				
COOLING DUCT LOCATION R-VALUE				
VERIFIED SEALED DUCTS IN CEILING/ROOF SPACE %FAN FLOW				

TABLE OF CODES: Enter code from table below into columns above.

	Y:Yes	N:No
HEAT PUMP THERMOSTAT?		
ELECTRIC HEAT?		
VAV MINIMUM POSITION CONTROL?		
HEAT AND COOL SUPPLY RESET?		
SIMULTANEOUS HEAT/COOL?		
HIGH EFFICIENCY?		
PIPE INSULATION REQUIRED?		
PIPE/DUCT INSULATION PROTECTED?		
SEALED DUCTS IN CEILING/ROOF SPACE?		

TIME CONTROL	SETBACK CTRL.	ISOLATION ZONES	FAN CONTROL
S: Prog. Switch O: Occupancy Sensor M: Manual Timer	B: Both C: Cooling H: Heating	Enter number of Isolation Zones	I: Inlet Vanes P: Variable Pitch V: VFD O: Other C: Curve

VENTILATION	OUTDOOR DAMPER	ECONOMIZER	O.A. CFM
B: Air Balance C: Outside Air Cert. M: Outside Air Measure D: Demand Control N: Natural	A: Auto G: Gravity	A: Air W: Water N: Not Required EC: Economizer Control See Section 144(e)3	Enter Design Outdoor Air CFM. Note: This shall be no less than Column H on MECH-3.

MECHANICAL EQUIPMENT SUMMARY (Part 1 of 2) MECH-2

PROJECT NAME	DATE

CHILLER AND TOWER SUMMARY

					PUMPS					
Equipment Name	Equipment Type	Qty.	Effi-ciency	Tons	Total Qty	GPM	BHP	Motor Eff.	Drive Eff.	Pump Control

DHW / BOILER SUMMARY

						Energy Factor or Recovery Efficiency	Standby Loss or Pilot	TANK INSUL. Ext. R-Val
System Name	System Type	Distribution Type	Qty.	Rated Input	Vol. (Gals.)			

CENTRAL SYSTEM RATINGS

			HEATING			COOLING			
System Name	System Type	Qty.	Output	Aux. KW	Effi-ciency	Output	Sensible	Effi-ciency	Economizer Type

CENTRAL FAN SUMMARY

			SUPPLY FAN				RETURN FAN			
System Name	Fan Type	Motor Location	CFM	BHP	Motor Eff.	Drive Eff.	CFM	BHP	Motor Eff.	Drive Eff.

MECHANICAL EQUIPMENT SUMMARY (Part 2 of 2) MECH-2

PROJECT NAME	DATE

VAV SUMMARY

	VAV					FAN					BASEBOARD	
Zone Name	System Type	Qty.	Min. CFM Ratio	Reheat? Type	Reheat? ΔT	Flow Ratio	CFM	BHP	Motor Eff.	Drive Eff.	Type	Output

EXHAUST FAN SUMMARY

EXHAUST FAN						EXHAUST FAN					
Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.	Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.

MECHANICAL VENTILATION MECH-3

PROJECT NAME	DATE

MECHANICAL VENTILATION

A	B	C	D	E	F	G	H	I	J	K
	AREA BASIS			OCCUPANCY BASIS			REQ'D.	DESIGN		
ZONE/ SYSTEM	COND AREA (SF)	CFM PER SF	MIN. CFM (B X C)	NO. OF PEOPLE	CFM PER PERSON	MIN. CFM (E X F)	O.A. (MAX. OF D OR G)	OUTDOOR AIR CFM	VAV MIN. CFM	TRANSFER AIR CFM
	Totals (For MECH-4)									

C Minimum ventilation rate per Section § 121, Table 1-F.

E Based on expected number of occupants or at least 50% of Chapter 10 1997 UBC occupant density

I Must be greater than or equal to H, or use Transfer Air. Design outdoor air includes ventilation from supply air system & exhaust fans, which operate at design conditions.

K Must be greater than or equal to (H - I), and, for VAV, greater than or equal to (H - J).

MECHANICAL SIZING AND FAN POWER MECH-4

PROJECT NAME	DATE
SYSTEM NAME	FLOOR AREA

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach.

SIZING and EQUIPMENT SELECTION

1. DESIGN CONDITIONS:

		COOLING	HEATING
- OUTDOOR, DRY BULB TEMPERATURE	(APPENDIX C)		
- OUTDOOR, WET BULB TEMPERATURE	(APPENDIX C)		
- INDOOR, DRY BULB TEMPERATURE	(1993 ASHRAE handbook, See Chap. 8, Fig. 5)		

2. SIZING

			COOLING	HEATING
- DESIGN OUTDOOR AIR				
- ENVELOPE LOAD				
- LIGHTING				
- PEOPLE				
- MISCELLANEOUS EQUIPMENT				
- OTHER		(Describe)		
- OTHER		(Describe)		
- OTHER		(Describe)		
		TOTALS		
OTHER LOADS/SAFETY FACTOR (enter 1.21 for cooling and 1.43 heating)				
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE X OTHER LOAD/SAFETY FACTOR)				

3. SELECTION:

	COOLING	HEATING
INSTALLED EQUIPMENT CAPACITY		
	Kbtu / Hr	Kbtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN _____

FAN POWER CONSUMPTION

A	B	C	D	E	F	G
FAN DESCRIPTION	**DESIGN BRAKE HP**	**EFFICIENCY** MOTOR	DRIVE	**NUMBER OF FANS**	**PEAK WATTS** B x E x 746 / (C x D)	**CFM** (Supply Fans)
			TOTALS			

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM (Col. F / Col. G)

MECHANICAL DISTRIBUTION SUMMARY PERFORMANCE USE ONLY MECH-5

PROJECT NAME	DATE
ADDRESS	PERMIT NUMBER

VERIFIED DUCT TIGHTNESS BY INSTALLER

☐ DUCT LEAKAGE REDUCTION Pressurization Test Results (Aerosol or Manual Sealing) CFM @ 25 PA

	Measured Values
Test Leakage (CFM)	

Fan Flow

If Fan Flow is Calculated as 400 cfm/ton x number of tons, or as 21.7 x Heating Capacity in Thousands of Btu/hr, enter calculated value here	
If Fan Flow is Measured, enter measured value here	
Leakage Fraction = Test Leakage / (Calculated or Measured Fan Flow)	
Check Box for Pass or Fail (Pass = 6% or less of Leakage Fraction)	☐ Pass ☐ Fail

Tests Performed	Signature Date	Installing Subcontractor (Co. Name) **OR** General Contractor (Co. Name)

HERS RATER COMPLIANCE STATEMENT

☐ BUILDING TESTED Pressurization Test Results (Aerosol or Manual Sealing) CFM @ 25 PA

As the HERS rater providing diagnostic testing and field verification, I certify that the building identified on this form complies with the diagnostic tested compliance requirements as checked on this form.

Supply Duct R-value _____ (R-value 4.2 or greater)
Return Duct R-value _____ (R-value 4.2 or greater)

- ❑ Distribution system is fully ducted (i.e., does not use building cavities as plenums or platform returns in lieu of ducts)
- ❑ Where cloth backed, rubber adhesive duct tape is installed, mastic and drawbands are used in combination with cloth backed, rubber adhesive duct tape to seal leaks at duct connections.
- ❑ Minimum Requirements for Duct Leakage Reduction Compliance Credit

	Measured Values
Test Leakage (CFM)	

Fan Flow

If Fan Flow is Calculated as 400 cfm/ton x number of tons, or as 21.7 x Heating Capacity in Thousands of Btu/hr, enter calculated value here	
If Fan Flow is Measured, enter measured value here	
Leakage Fraction = Test Leakage / (Calculated or Measured Fan Flow)	
Check Box for Pass or Fail (Pass = 6% or less of Leakage Fraction)	☐ Pass ☐ Fail

Tests Performed	Signature Date	HERS Rater (Name)

COPY TO: Building Department, HERS Provider (if applicable), and Building Owner at Occupancy

Lighting Forms

CERTIFICATE OF COMPLIANCE (Part 1 of 3) LTG-1

PROJECT NAME		DATE
PROJECT ADDRESS		
PRINCIPAL DESIGNER-LIGHTING	TELEPHONE	Building Permit
DOCUMENTATION AUTHOR	TELEPHONE	Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS	BUILDING CONDITIONED FLOOR AREA	CLIMATE ZONE

BUILDING TYPE ☐ NONRESIDENTIAL ☐ HIGH RISE RESIDENTIAL ☐ HOTEL/MOTEL GUEST ROOM

PHASE OF CONSTRUCTION ☐ NEW CONSTRUCTION ☐ ADDITION ☐ ALTERATION ☐ UNCONDITIONED (file affidavit)

☐ COMPLETE BLDG. ☐ AREA CATEGORY ☐ TAILORED ☐ PERFORMANCE

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building lighting requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR	SIGNATURE	DATE

The Principal Lighting Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the lighting requirements contained in the applicable parts of Sections 110, 119,130 through 132, 146, and 149 of Title 24, Part 6.
Please check one:

- ❑ I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer or electrical engineer, or I am a licensed architect.

- ❑ I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.

- ❑ I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537,5538 and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

PRINCIPAL LIGHTING DESIGNERS NAME	SIGNATURE	DATE	LIC. #

LIGHTING MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measure _____

INSTRUCTIONS TO APPLICANT

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.
LTG-1: Required on plans for all submittals. Part 2 and 3 may be incorporated in schedules on plans.
LTG-2: Required for all submittals.
LTG-3: Optional. Uses only if lighting control credits are taken.
LTG-4: Optional. Part 2 and 3 and LTG-5 are optional if Tailored Method if used.

CERTIFICATE OF COMPLIANCE (Part 2 of 3) LTG-1

PROJECT NAME	DATE

INSTALLED LIGHTING SCHEDULE

		LAMPS			BALLAST		LUMINAIRE		TOTAL WATTS
Name	LUMINAIRE DESCRIPTION	Type DESCRIPTION	No. of Lamps	Watts Per Lamp	Type DESCRIPTION	No. of Ballast	No. of Lumin.	Watts/ Lumin.	

Lighting Schedule on Plans Shows Exterior Lighting Meets

☐ Efficacy and Control Requirement of § 130l

☐ Control Requirements of § 131(f)

SUBTOTAL FROM THIS PAGE	
PLUS SUBTOTAL FROM CONTINUATION PAGE	
PORTABLE LIGHTING (From LTG-1 Part 3 of 3)	
LESS CONTROL CREDIT WATTS (From LTG-3)	
ADJUSTED ACTUAL WATTS	

MANDATORY AUTOMATIC CONTROLS

CONTROL LOCATION (Room #)	CONTROL IDENTIFICATION	CONTROL TYPE (Auto Time Switch, Exterior, etc.)	SPACE CONTROLLED	NOTE TO FIELD

CONTROLS FOR CREDIT

CONTROL LOCATION (Room # or Dwg. #)	CONTROL IDENTIFICATION	CONTROL TYPE (Occupant, Daylight, Dimming, etc.)	LUMINAIRES CONTROLLED		NOTE TO FIELD
			TYPE	# OF LUMINAIRES	

NOTES TO FIELD – For Building Department Use Only

PORTABLE LIGHTING WORKSHEET (Part 3 of 3) LTG-1

PROJECT NAME	DATE

TABLE 1A – PORTABLE LIGHTING NOT SHOWN ON PLANS FOR OFFICE AREA > 250 SQUARE FEET

A	B	C	D
ROOM # OR ZONE ID	DEFAULT (WATTS)	AREA (SF)	TOTAL WATTS (B X C)
	0.2		
	0.2		
	0.2		
	0.2		
	0.2		
	0.2		
	TOTAL		

TABLE 1B – PORTABLE LIGHTING SHOWN ON PLANS FOR OFFICE AREA > 250 SQUARE FEET

A	B	C	D	E	F	G
ROOM # OR ZONE ID	PORTABLE LIGHTING DESCRIPTION (S) PER TASK AREA	LUMINAIRE (S) WATTS PER TASK AREA	TASK AREA (SF)	NUMBER OF TASK AREAS	TOTAL AREA (SF) (D X E)	TOTAL WATTS (C X E)
				TOTAL		

TABLE 1C – PLANS SHOW PORTABLE LIGHTING IS NOT REQUIRED FOR OFFICE AREAS > 250 SQUARE FEET

ROOM # OR ZONE ID	TOTAL AREA (SF)
TOTAL	

Designer needs to provide detailed documentation that the lighting level provided by the overhead lighting meets the needs of the space. The details include luminaire types, CU, and mounting locations relative to work areas.

BUILDING SUMMARY – PORTABLE LIGHTING

BUILDING SUMMARY	TOTAL AREA (SF) (FROM TABLES 1A+1B+1C)	TOTAL WATTS (FROM TABLES 1A+1B)
BUILDING TOTAL		

Enter on LTG-1 and 2: Portable Lighting

LIGHTING COMPLIANCE SUMMARY LTG-2

PROJECT NAME	DATE

ACTUAL LIGHTING POWER

LUMINAIRE NAME	Type DESCRIPTION	NUMBER OF LUMINAIRES	WATTS PER LUMINAIRE (Including Ballast)	CEC DEFAULT? Y	CEC DEFAULT? N	TOTAL WATTS
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	

SUBTOTAL FROM THIS PAGE	
PLUS SUBTOTAL FROM CONTINUATION PAGE	
PORTABLE LIGHTING (From LTG-1 Part 3 of 3)	
LESS CONTROL CREDIT WATTS (From LTG-3)	
ADJUSTED ACTUAL WATTS	

ALLOWED LIGHTING POWER (Choose One Method)

COMPLETE BUILDING METHOD

BUILDING CATEGORY (From § 146(b) Table 1-M)	WATTS PER SF	COMPLETE BLDG. AREA	ALLOWED WATTS

AREA CATEGORY METHOD

AREA CATEGORY (From § 146(b) Table 1-N)	WATTS PER SF	AREA (SF)	ALLOWED WATTS
TOTALS			
		AREA	WATTS

TAILORED METHOD

TOTAL ALLOWED WATTS (From LTG-4)	

LIGHTING CONTROLS CREDIT WORKSHEET LTG-3

PROJECT NAME	DATE

WORKSHEET

A	B	C	D	E	F	G	H	I
				DAYLIGHTING				
ROOM # ZONE ID	LIGHTING CONTROL DESCRIPTION	PLANS REF.	ROOM AREA (SF)	ROOM RATIO*	GLAZING VLT	CONTROL LIGHTING (Watts)	LIGHTING ADJUSTMENT FACTOR	CONTROL CREDIT WATTS (G X H)

PAGE TOTAL →

BUILDING TOTAL →

Enter on LTG-1 and 2: Plus Subtotal From Continuation Page

*For windows, use the Window Wall Ratio for the room. For skylights, use the Skylight-to Roof ratio for the room.

TAILORED LPD SUMMARY and WORKSHEET (Part 1 of 3) LTG-4

PROJECT NAME	DATE

TAILORED METHOD

1. Watts for Illuminance Categories A-D (from column G below) → ______ WATTS

2.Watts for Illuminance Categories E-I (from LTG-4 Part 2) → ______ WATTS

3. Watts for Display Lighting (from LTG-4 Parts 2 & 3)

______ + ______ + ______ = ______ WATTS

Public Area Display | Sales Feature Floor Display | Sales Feature Wall Display

4. Total Allowed Watts (lines 1+2+3) → ______ WATTS

TAILORED LPD – Illuminance Categories A, B, C and D and Gross Sales Floor Area

A	B	C	D	E	F	G
ROOM NUMBER	TASK/ACTIVITY	ILLUMINANCE CATEGORY	ROOM CAVITY RATIO	FLOOR AREA	ALLOWED LPD	ALLOWED WATTS (E X F)

	E	G
PAGE TOTAL →		
BUILDING TOTAL →		
	SF	WATTS

TAILORED LPD SUMMARY and WORKSHEET (Part 2 of 3) LTG-4

PROJECT NAME	DATE

TAILORED LPD – Illuminance Categories E, F, G, H, I and Gross Sales Wall Area

A	B	C	D	E	F	G	H	I	J	K	L
				ALLOTTED WATTS			DESIGN WATTS				
TASK / ACTIVITY	Illum. Cat.	RCR (If E)	Notes*	TASK AREA (sf)	ALLOWED LPD	ALLOTTED WATTS (E X F)	LUMIN. NAME	QTY Of LUMIN.	WATTS/ LUMIN.	DESIGN WATTS (I X J)	**ALLOWED WATTS** (Min. G or K)
PAGE TOTAL →											
BUILDING TOTAL →											

* Enter Mounting Height or Throw Distance or Both if applicable.

TAILORED LPD – Public Area Displays

A	B	C	D	E	F	G	H	I	J	K
			ALLOTTED WATTS			DESIGN WATTS				
TASK / ACTIVITY	Throw Dist.	Mtg. Hgt.	TASK AREA (sf)	ALLOWED LPD	ALLOTTED WATTS (D X E)	LUMIN. NAME	QTY. Of LUMIN.	WATTS/ LUMIN.	DESIGN WATTS (H X I)	**ALLOWED WATTS** (Min. F or J)
TOTAL AREA PUBLIC DISPLAYS				SF					TOTAL	
										WATTS
PLANE OF PUBLIC DISPLAY AREA				X 0.1 =		MAXIMUM AREA PUBLIC DISPLAYS (SF)				

TAILORED LPD SUMMARY and WORKSHEET (Part 3 of 3) LTG-4

PROJECT NAME	DATE

TAILORED LPD – Sales Feature Floor Displays

A	B	C	D	E	F	G	H	I	J	K
			ALLOTTED WATTS			DESIGN WATTS				
TASK / ACTIVITY	THROW DISTANCE	MOUNT. HEIGHT	TASK AREA (sf)	CAT. G ALLOWED LPD	ALLOTTED WATTS (D X E)	LUMIN. NAME	QTY. Of LUMIN.	WATTS/ LUMIN.	DESIGN WATTS (H X I)	**ALLOWED WATTS** (Min. F or J)

TOTAL AREA FLOOR DISPLAYS ____ SF TOTAL WATTS ____

GROSS SALES FLOOR AREA ____ X 0.1 = ____ MAXIMUM AREA FLOOR DISPLAYS (SF)

TAILORED LPD – Sales Feature Wall Displays

A	B	C	D	E	F	G	H	I	J
		ALLOTTED WATTS			DESIGN WATTS				
TASK / ACTIVITY	THROW DISTANCE	TASK AREA (sf)	Cat. G ALLOWED LPD	ALLOTTED WATTS (C X D)	LUMIN. NAME	QTY. Of LUMIN.	WATTS\ LUMIN.	DESIGN WATTS (G XH)	**ALLOWED WATTS** (Min. E or I)

TOTAL AREA WALL DISPLAYS ____ SF TOTAL WATTS ____

GROSS SALES WALL AREA ____ X 0.1 = ____ MAXIMUM AREA WALL DISPLAYS (SF)

ROOM CAVITY RATIO WORKSHEET (RCR ≥ 3.5) LTG-5

PROJECT NAME		FOR ENFORCEMENT AGENCY USE ONLY	
DOCUMENTATION AUTHOR	DATE	PLAN CHECKED BY	DATE

RECTANGULAR SPACES

A	B	C	D	E	F
Room Number	Task/Activity Description	Room Length (L)	Room Width (W)	Room Height (H)	Room Cavity Ratio 5 x H x (L+W) / (L x W)

NON-RECTANGULAR SPACES

A	B	C	D	E	F
Room Number	Task/Activity Description	Room Area (A)	Room Perimeter (P)	Room Height (H)	Room Cavity Ratio (2.5 x H x P) / A

DEFAULT U-FACTOR AND SHGC LABEL CERTIFICATE FORM

ALTERNATIVE U-FACTOR AND SHGC LABEL CERTIFICATE FORM

SAMPLES FORMS

DEFAULT U-FACTOR AND SHGC LABEL CERTIFICATE FORM

PROJECT INFORMATION

PROJECT NAME:	DATE:
PROJECT ADDRESS:	

CEC DEFAULT U-FACTOR AND SHGC LABEL CERTIFICATE

(Use only for Site-Assembled Fenestration Product Lines)

Method 1 in this Default Certificate may be used for site-assembled vertical glazing installed in all non-residential buildings.

U-factors and SHGC are derived from the California Energy Commission Fenestration Default U-factors and SHGC Default Table based on data reported below.

U-factor = ___

SHGC = ___

This Fenestration Product Line meets the air infiltration requirements of Section 116(a) 1, 2001 California Energy Efficiency Standards for Residential and Nonresidential Buildings.

PRODUCT LINE INFORMATION (Complete a separate Default Label Certificate for each fenestration product line in the project)

Total Number of units for this product line:	_____	Total square footage of this product line:	_____
Elevation drawing page:	_____	Fenestration (window & door) schedule page:	_____
Location(s) on building: (enter appropriate orientation(s))	_____	Total Fenestration Area (ft^2) on project:	_____

❑ Method 1 - DEFAULT FENESTRATION U-FACTOR AND SHGC FROM TABLES 3-10 AND 3-12 OF THE NONRESIDENTIAL MANUAL FOR COMPLIANCE WITH THE 2001 ENERGY EFFICIENCY STANDARDS

Frame Type	❑ Metal	❑ Metal Thermal Break (or Structural Glazing)			❑ Nonmetal	
U-factor Table 3-10 Product Type	❑ Operable	❑ Fixed	❑ Greenhouse, Garden Window	❑ Door	❑ Skylight	
Glazing Type	❑ Single Pane	❑ Double Pane	**Default U-factor** =	_____	(If no adjustment, insert value in above gray box next to U-factor)	
SHGC Table 3-12 Product Type	❑ Operable	❑ Fixed				
SHGC Table 3-12 Glazing Tint	❑ Clear	❑ Tint	**Default SHGC =**	_____	(Insert default value in above gray box next to SHGC)	

U-Factor Adjustment (See Table 3-10, Footnote 2)

- ❑ Subtract 0.05 for spacers of 7/16 inch or wider
- ❑ Subtract 0.05 for products certified by the manufacturer as low-E glazing.
- ❑ Add 0.05 for products with dividers between panes if spacer is less than 7/16 inch wide.
- ❑ Add 0.05 for products with true divided lite (dividers through the panes).

U-Factor Adjustment = _____ (If applicable insert adjustment result in above gray box next to U-factor)

PERSON TAKING RESPONSIBILITY FOR FENESTRATION COMPLIANCE CONTACT PERSON:

Contact Person:		
Company name and address:		
Phone:	Fax:	Signature:

ALTERNATIVE DEFAULT U-FACTOR and SHGC LABEL CERTIFICATE

PROJECT INFORMATION

PROJECT NAME:	DATE:
PROJECT ADDRESS:	

CEC ALTERNATIVE DEFAULT U-FACTOR AND SHGC LABEL CERTIFICATE

(Use only for Site-Assembled Fenestration Product Lines)

Method 2 Alternative Default Certificate shall not be used for site-assembled vertical glazing installed in buildings with 100,000 square feet or more of conditioned floor area and 10,000 square feet or more of vertical glazing.

U-factors and SHGC are derived from the California Energy Commission Fenestration Alternative Default U-factors and SHGC Equations based on data reported below.

U-factor = ____

SHGC = ____

This Fenestration Product Line meets the air infiltration requirements of Section 116(a) 1, 2001 California Energy Efficiency Standards for Residential and Nonresidential Buildings.

PRODUCT LINE INFORMATION (Complete a separate Default Label Certificate for each fenestration product line in the project)			
Total Number of units for this product line:	_____	Total square footage of this product line:	_____
Elevation drawing page:	_____	Fenestration (window & door) schedule page:	_____
Location(s) on building: S, N, E, W (Enter appropriate orientation(s))	_____	Total Fenestration Area (ft^2) on project:	_____

❑ Method 2 - DEFAULT FENESTRATION U-FACTOR AND SHGC FROM APPENDIX B, TABLE B-14 AND MANUFACTURER'S DOCUMENTATION

Product Type	❑ Glazed Wall Systems	❑ Skylight with Curb	❑ Skylight without Curb			
Frame Type	❑ Aluminum	❑ Aluminum Metal Thermal Break	❑ Wood/Vinyl	❑ Reinforced Vinyl/ Aluminum Clad Wood	❑ Structural Glazing	
Glazing Type, Glazing Thickness	❑ Single ⅛" Glass	❑ Single ⅛" Acrylic/polycarb	❑ Single ¼ " Acrylic/polycarb	❑ Double-Glass	❑ Triple Glazing	❑ Quadruple Glazing
Coating Emissivity	❑ 0.05	❑ 0.10	❑ 0.20	❑ 0.40	❑ 0.60	
Coated Surfaces	❑ 2 or 3	❑ 2, 3, 4, or 5	❑ 2 or 3 and 4 or 5			
Glazing Spacing	❑ 1/4" Airspace	❑ 1/2" Airspace				
Gas Fill between Panes	❑ Air	❑ Argon	❑ Krypton			

CEC ALTERNATIVE DEFAULT FENESTRATION U-FACTOR =	____	From Assembly U-Factors - Appendix B, Table B-14 (Insert value in above gray box next to U-factor)

DEFAULT SOLAR HEAT GAIN COEFFICIENT

SHGC for Center of Glass	**SHGCc =**	____	From Manufacturer's Documentation (Insert value "**SHGCc** " in equation below)
Calculate SHGC Fenestration Equation from Appendix B, Table B-12 (Site-Assembled)	**$SHGC_{fen}$ = 0.08 + (0.86 x SHGCc) =**	____	(Insert result value in above gray box next to SHGC)

ATTACHED MANUFACTURED DOCUMENTATION

Manufacturer's documentation must be attached showing the Product Type, Frame Type, Glazing Type, and SHGCc information needed to determine the Default U-factor and SHGC from the Applicable Table or equation.

PERSON TAKING RESPONSIBILITY FOR FENESTRATION COMPLIANCE CONTACT PERSON:

Contact Person:		
Company name and address:		
Phone:	Fax:	Signature:

DEFAULT U-FACTOR AND SHGC LABEL CERTIFICATE FORM SAMPLE

PROJECT INFORMATION	SAMPLE
PROJECT NAME: **RIVER CITY OFFICE** SAMPLE	DATE: **August 1, 2001**
PROJECT ADDRESS: **321 North 5th St. Sacramento, CA 95814** **SAMPLE**	

CEC DEFAULT U-FACTOR AND SHGC LABEL CERTIFICATE
(Use only for Site-Assembled Fenestration Product Lines)

Method 1 in this Default Certificate may be used for site-assembled vertical glazing installed in all non-residential buildings.

U-factors and SHGC are derived from the California Energy Commission Fenestration Default U-factors and SHGC Default Table based on data reported below.

U-factor = 0.71
SHGC = 0.73

This Fenestration Product Line meets the air infiltration requirements of Section 116(a) 1, 2001 California Energy Efficiency Standards for Residential and Nonresidential Buildings.

PRODUCT LINE INFORMATION (Complete a separate Default Label Certificate for each fenestration product line in the project)			
Total Number of units for this product line:	**2**	Total square footage of this product line:	**480**
Elevation drawing page:	**E-3**	Fenestration (window & door) schedule page:	**E-4, E-6**
Location(s) on building: (enter appropriate orientation(s))	**South, East, West and North**	Total Fenestration Area (ft^2) on project:	**960**

❑ Method 1 - DEFAULT FENESTRATION U-FACTOR AND SHGC FROM TABLES 3-10 AND 3-12 OF THE NONRESIDENTIAL MANUAL FOR COMPLIANCE WITH THE 2001 ENERGY EFFICIENCY STANDARDS

Frame Type	✕ Metal	❑ Metal Thermal Break (or Structural Glazing)			❑ Nonmetal	
U-factor Table 3-10 Product Type	❑ Operable	✕ Fixed	❑ Greenhouse, Garden Window	❑ Door	❑ Skylight	
Glazing Type	❑ Single Pane	✕ Double Pane	**Default U-factor** =	**0.72**	(If no adjustment, insert value in above gray box next to U-factor)	
SHGC Table 3-12 Product Type	❑ Operable	✕ Fixed				
SHGC Table 3-12 Glazing Tint	✕ Clear	❑ Tint	**Default SHGC =**	**0.73**	(Insert default value in above gray box next to SHGC)	

U-Factor Adjustment (See Table 3-10, Footnote 2)

- ✕ Subtract 0.05 for spacers of 7/16 inch or wider
- ✕ Subtract 0.05 for products certified by the manufacturer as low-E glazing.
- ❑ Add 0.05 for products with dividers between panes if spacer is less than 7/16 inch wide.
- ❑ Add 0.05 for products with true divided lite (dividers through the panes).

U-Factor Adjustment = 0.72 – 0.05 – 0.05 = **0.71**	(If applicable insert adjustment result in above gray box next to U-factor)

PERSON TAKING RESPONSIBILITY FOR FENESTRATION COMPLIANCE CONTACT PERSON:		
Contact Person: **Joe Glassguy** **SAMPLE**		
Company name and address: **453 Venice Way** **SAMPLE**		
Phone: **916-555-5555**	Fax:	Signature: *Joe Glassguy*

ALTERNATIVE DEFAULT U-FACTOR and SHGC LABEL CERTIFICATE

PROJECT INFORMATION	SAMPLE	
PROJECT NAME: **RIVER CITY OFFICE**	**SAMPLE**	DATE: **August 1, 2001**
PROJECT ADDRESS: **3212 North 5th St. Sacramento, CA 95814**	SAMPLE	

CEC ALTERNATIVE DEFAULT U-FACTOR AND SHGC LABEL CERTIFICATE

(Use only for Site-Assembled Fenestration Product Lines)

Method 2 Alternative Default Certificate shall not be used for site-assembled vertical glazing installed in buildings with 100,000 square feet or more of conditioned floor area and 10,000 square feet or more of vertical glazing.

U-factors and SHGC are derived from the California Energy Commission Fenestration Alternative Default U-factors and SHGC Equations based on data reported below.

U-factor = 0.66
SHGC = 0.42

This Fenestration Product Line meets the air infiltration requirements of Section 116(a) 1, 2001 California Energy Efficiency Standards for Residential and Nonresidential Buildings.

PRODUCT LINE INFORMATION (Complete a separate Default Label Certificate for each fenestration product line in the project)			
Total Number of units for this product line:	**2**	Total square footage of this product line:	**480**
Elevation drawing page:	**E-3**	Fenestration (window & door) schedule page:	**E-4, E-6**
Location(s) on building: (Enter appropriate orientation(s))	**South, East, West and North**	Total Fenestration Area (ft^2) on project:	**960**

❑ Method 2 - DEFAULT FENESTRATION U-FACTOR AND SHGC FROM APPENDIX B, TABLE B-14 AND MANUFACTURER'S DOCUMENTATION

Product Type	✕ Glazed Wall Systems	❑ Skylight with Curb	❑ Skylight without Curb			
Frame Type	✕ Aluminum	❑ Aluminum Metal Thermal Break	❑ Wood/Vinyl	❑ Reinforced Vinyl/ Aluminum Clad Wood	❑ Structural Glazing	
Glazing Type, Glazing Thickness	❑ Single ⅛" Glass	❑ Single ⅛" Acrylic/polycarb	❑ Single ¼ " Acrylic/polycarb	✕ Double-Glass	❑ Triple Glazing	❑ Quadruple Glazing
Coating Emissivity	❑ 0.05	❑ 0.10	❑ 0.20	✕ 0.40	❑ 0.60	
Coated Surfaces	✕ 2 or 3	❑ 2, 3, 4, or 5	❑ 2 or 3 and 4 or 5			
Glazing Spacing	❑ 1/4" Airspace	✕ 1/2" Airspace				
Gas Fill between Panes	✕ Air	❑ Argon	❑ Krypton			

CEC ALTERNATIVE DEFAULT FENESTRATION U-FACTOR =	**0.66**	From Assembly U-Factors - Appendix B, Table B-14 (Insert value in above gray box next to U-factor)

DEFAULT SOLAR HEAT GAIN COEFFICIENT

SHGC for Center of Glass	**SHGCc =**	**0.40**	From Manufacturer's Documentation (Insert value "**SHGCc** " in equation below)	
Calculate SHGC Fenestration Equation from Appendix B, Table B-12 (Site-Assembled)	**$SHGC_{fen}$ = 0.08 + (0.86 x SHGCc) =**	**0.42**	(Insert result value in above gray box next to SHGC)	

ATTACHED MANUFACTURED DOCUMENTATION

Manufacturer's documentation must be attached showing the Product Type, Frame Type, Glazing Type, and SHGCc information needed to determine the Default U-factor and SHGC from the Applicable Table or equation.

PERSON TAKING RESPONSIBILITY FOR FENESTRATION COMPLIANCE CONTACT PERSON:

Contact Person: **Joe Glassguy**		**SAMPLE**
Company name and address: **453 Venice Way**		**SAMPLE**
Phone: **916-555-5555**	Fax:	Signature: *Joe Glassguy*